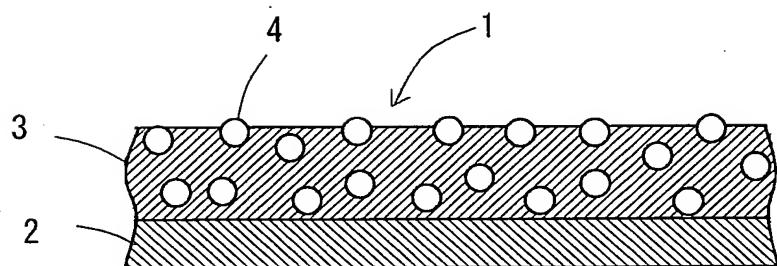
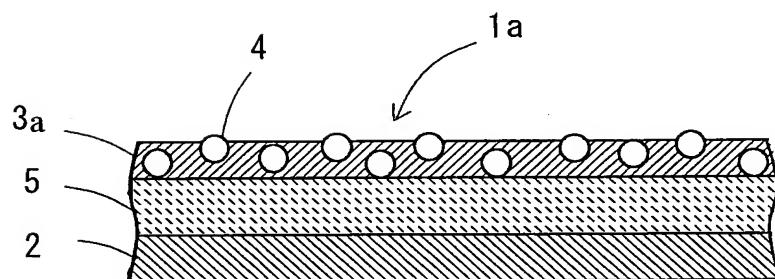


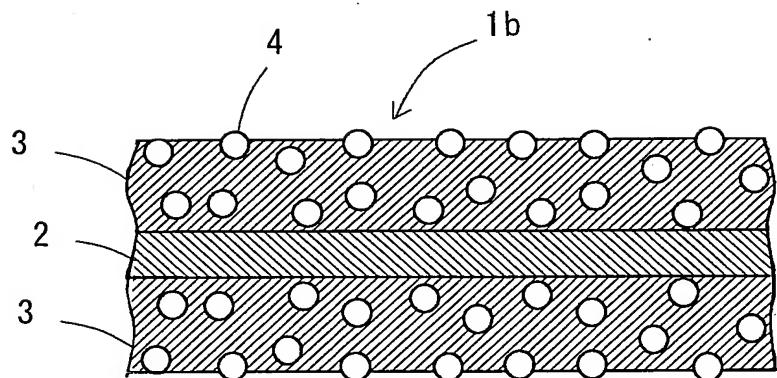
# FIG. 1



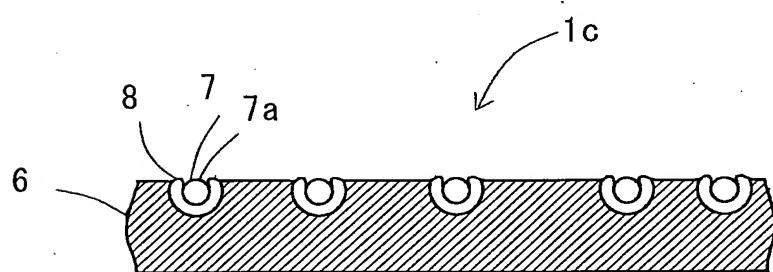
# FIG. 2



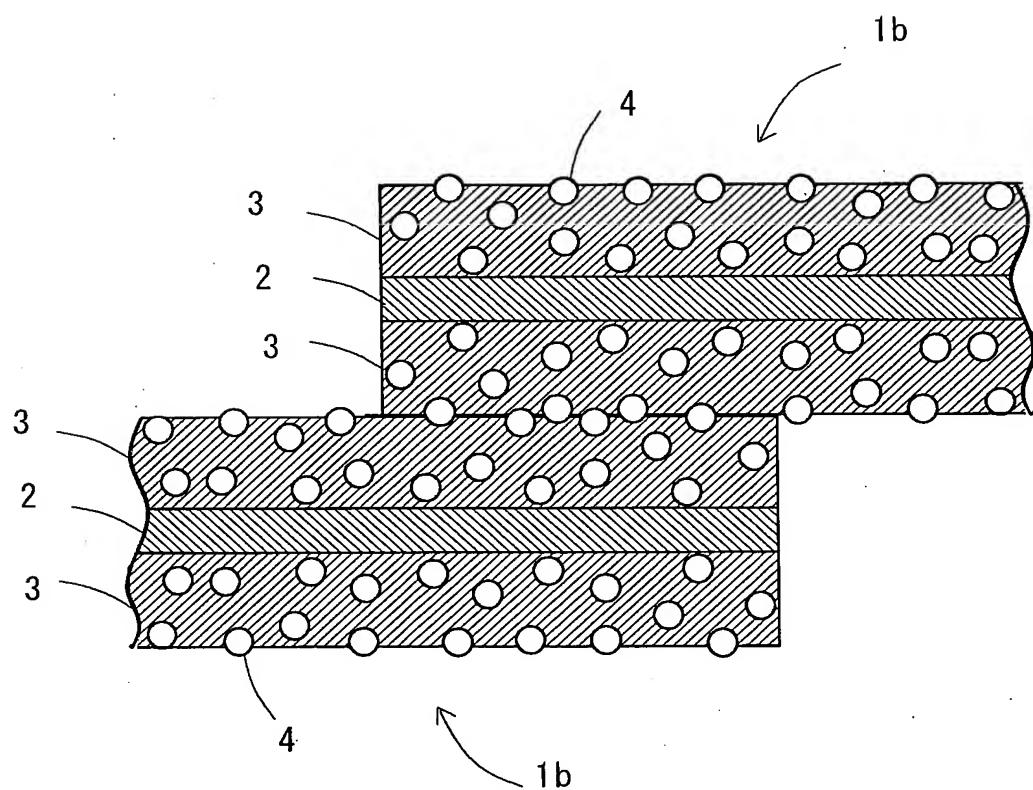
**FIG. 3**



**FIG. 4**



# FIG. 5



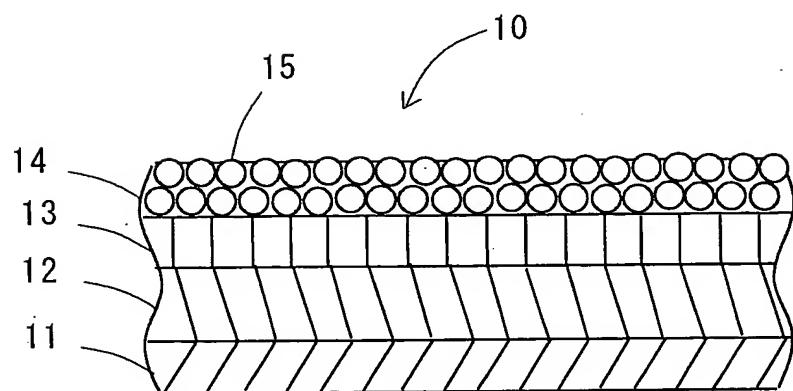
# FIG. 6

Sample	Solution	Species of photocatalyst	(PVC+PMA) / photocatalyst	Evaluation 1 (Silver Nitrate)		Evaluation 2		Evaluation 3	
				Photo-redox reaction	$\Delta E$	(Peeling test)	Mass change after 1hr	Mass change after 24hrs	Mass ratio after 1hr
Example 1 a	A	Apatite-coated $TiO_2$	90/10	O	2.3	O	1mg	2mg	0%
Example 2 b	B	Apatite-coated $TiO_2$	80/20	O	5.0	O	1mg	3mg	0%
Example 3 c	C	Apatite-coated $TiO_2$	60/40	O	6.1	O	2mg	2mg	+4%
Example 4 d	D	Apatite-coated $TiO_2$	40/60	O	13.5	$\Delta$	1mg	2mg	0%
Example 5 e	E	Apatite-coated $TiO_2$	30/70	O	16.2	X	1mg	2mg	0%
Comparative Example 1 f	-	None	100/0	X	-	O	1mg	3mg	-4%
Comparative Example 2 g	G	$TiO_2$	90/10	O	3.6	O	1mg	3mg	0%
Comparative Example 3 h	H	$TiO_2$	80/20	O	7.2	O	1mg	5mg	0%
Comparative Example 4 i	I	$TiO_2$	60/40	O	14.9	O	0mg	6mg	0%
Comparative Example 5 j	J	$TiO_2$	40/60	O	17.2	X	2mg	8mg	-4%
Comparative Example 6 k	K	$TiO_2$	30/70	O	24.4	X	0mg	8mg	0%

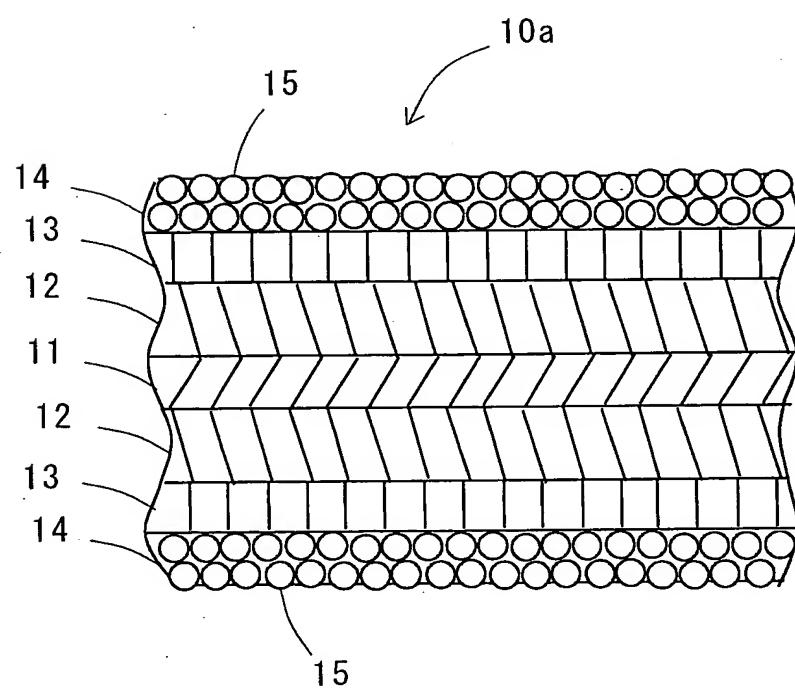
# FIG. 7

	Sample	Solution	Species of photocatalyst	EFP /photocatalyst	Evaluation 1 (Silver Nitrate)		Evaluation 2 (Peeling test)		Evaluation 3		
					Photo-redox reaction	$\Delta E$	Mass change after 1hr	Mass change after 24 hrs	Mass ratio after 1hr	Mass ratio after 24 hrs	
Example 6	m	M	Apatite-coated $TiO_2$	90/10	○	5.6	○	0mg	0%	0%	
Example 7	n	N	Apatite-coated $TiO_2$	80/20	○	6.6	○	0mg	0%	0%	
Example 8	p	P	Apatite-coated $TiO_2$	60/40	○	14.0	○	0mg	0%	0%	
Example 9	q	Q	Apatite-coated $TiO_2$	40/60	○	21.4	△	0mg	0%	0%	
Example 10	r	R	Apatite-coated $TiO_2$	30/70	○	22.2	×	0mg	0%	0%	
Comparative Example 7	s	-	None	100/0	×	-	○	0mg	0%	0%	

**FIG. 8**

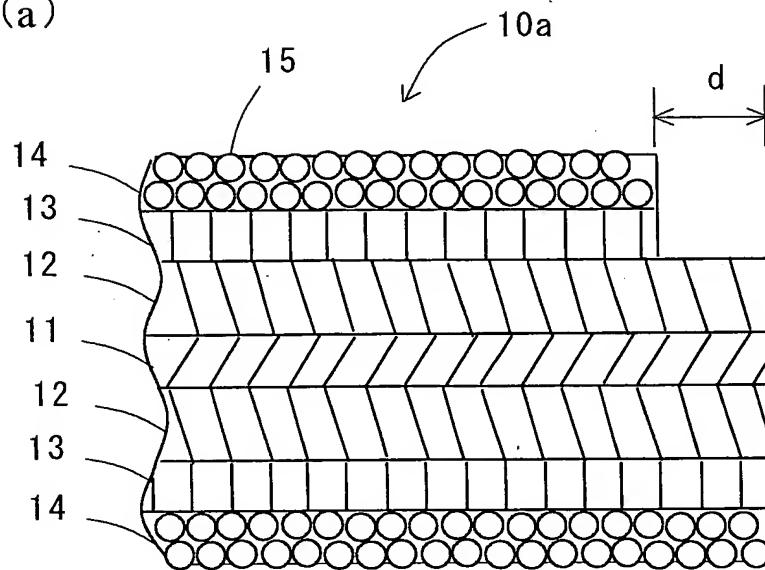


**FIG. 9**



# FIG 10

(a)



(b)

